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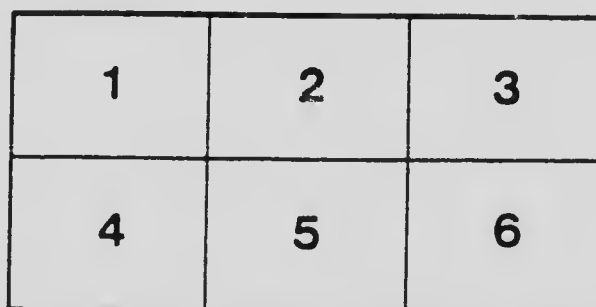
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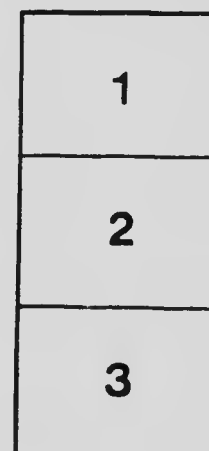
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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA
BULLETIN No. 223
VINEGAR.

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 223

VINEGAR.

OTTAWA, April 4, 1911.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

SIR,— I beg to hand you a report upon one hundred and forty three (143) samples of Vinegar, purchased by our inspectors throughout Canada in October of last year.

Analytical results appear in the case of only 84 of these samples. The remaining 59 samples were lost in the fire which destroyed our laboratories on the 4th of January. Some work had been done upon most of these samples, but the records are not available, having perished in the fire.

It was intended that the work upon this collection, together with that published in Bulletins 35 and 108 should form a basis for the classification of Vinegar as found in Canada. The meagre results attained, make it impossible to attempt the carrying out of the original plan; and it will be necessary to wait until we can make another systematic inspection of vinegar.

Vinegar appears to be marketed in Canada as Malt Vinegar, Cider Vinegar, and Cider Vinegar, or simply as Vinegar, without any distinctive character. It is probable that much of the vinegar offered is fundamentally a spirit vinegar with additions of flavouring and colouring matter which imitate malt, cider and wine vinegars. There is the further suspicion that considerable amounts of acetic acid, made by the destructive distillation of wood, as a bye-product in the wood spirit industry, are employed in vinegar making, and, of course, without a knowledge of the fact.

Provided that the acid so used is properly refined, it is identical with refined acetic acid from any other source, and is unobjectionable from the point of view of healthfulness. But, being entirely flavourless, it is not a vinegar, and cannot be sold as such unless artificially flavoured; when, if sold at all, it should be honestly labelled as artificial or imitation vinegar. There can be no doubt that the genuine vinegar industry suffers a serious handicap through the unfair competition of factitious substitutes for vinegar; or that the buyer who desires a genuine vinegar is frequently deceived by the substitution of a spurious article, whether with or without knowledge of that fact by the retailer. Nor can this undesirable condition of things be successfully met until a workable definition of vinegar, in the generic sense, is made legal; and until the various kinds of vinegar which are found in commerce, are recognized and defined by law.

The following scheme of classification and definition is to be regarded as a first attempt to bring matter into a shape in which we can deal with it. The definitions are very incomplete and require to have written into them numerical constants which have not yet been determined, and for the fixing of which I had hoped that the collection of vinegars now reported would have formed helpful material.

PROPOSED VINEGAR STANDARDS.

1. Vinegar is a liquid containing not less than 4 grams of acetic acid, nor more than 8 grams of acetic acid per 100 cubic centimeters; and when sold or offered for sale under a name which indicates a particular source, as Cider Vinegar, Malt Vinegar, Wine Vinegar, &c., it must be actually derived from such source.

2. Concentrated Vinegar, Vinegar Essence, &c., is a liquid containing more than 8 per cent of acetic acid, and must contain nothing which, when it is diluted to the strength of vinegar, and used as such, is harmful to health.

(Consider a limit to reducing impurities, &c.)

3. Spirit Vinegar, Alcohol Vinegar, &c., is vinegar made by the acetous fermentation of diluted distilled alcohol.

4. Wine Vinegar, is vinegar made by the alcoholic and subsequent acetous fermentation of the juice of sound, ripe grapes.

5. Malt Vinegar, is vinegar made by the alcoholic and subsequent acetous fermentation, without distillation, of an infusion of malt with or without the addition of other starchy or saccharine materials.

6. Cider Vinegar, Apple Vinegar, is vinegar made by the alcoholic and subsequent acetous fermentation of the juice of sound, ripe apples.

7. Sugar Vinegar, is vinegar made by the alcoholic and subsequent acetous fermentation of a solution of sugar.

8. Glucose Vinegar, is vinegar made by the alcoholic and subsequent acetous fermentation of a solution of glucose or glucose syrup.

9. Acetic Acid Vinegar, is vinegar made by the proper dilution of pure acetic acid with water.

10. Blended Vinegar, is vinegar made by a mixture of two or more of the above species of vinegar.

NOTE.—Imitation Vinegar, is vinegar made from dilute pure acetic acid, flavoured to imitate any of the above kinds of vinegar; and may have the name of the kind of vinegar imitated, added to the words "Imitation vinegar." Thus, Imitation Malt Vinegar: Imitation Wine Vinegar, &c.

NOTE.

1. When vinegar is asked for, it is held legally proper to supply any one of the above named species. When a specific vinegar is asked for, it is unlawful to substitute another kind, without declaration of the fact.

2. Numerical values will be fixed for the different species of vinegar, as soon as this Department is in possession of trustworthy data sufficient to justify such action.

3. Acetic acid means the hydrated acid, $C_4H_8O_3 + H_2O = 2C_2H_4O_2$. Molecular weight = 60.

One cubic centimetre of a normal solution contains 60 milligrammes of acetic acid.

Of the samples which I am now able to report upon, 18 are sold as Cider Vinegars; 17 as White Wine Vinegars and 8 as Malt Vinegars. If the composition of these various species of vinegar, as herein recorded, be tabulated under the above headings; it will be evident that, either there is great indefiniteness in the composition of a vinegar species, or most of the samples are not true to name.

CIDER VINEGARS.

	Acetic Acid.	Solids p. c.	Ash p. c.
42150	2.69	1.302	0.202
42153	3.98	0.722	0.078
42154	4.68	2.418	0.300
42155	4.36	2.206	0.363
42159	4.68	2.768	0.374
45921	4.54	0.168	0.026
45923	2.95	1.828	0.364
45349	4.63	2.370	0.384
45350	4.63	1.144	0.432
45353	3.86	4.728	0.256
45355	3.93	2.348	0.344
45356	3.93	2.152	0.328
45357	2.52	1.766	0.416
41041	4.13	0.906	0.094
40740	4.80	2.654	0.280
45156	5.37	2.038	0.254
45158	4.77	2.662	0.316
42433	4.17	2.190	0.216

The requirements of the United States Standards for Cider Vinegar are, 4 per cent acetic acid, 1.6 per cent solids and 0.25 ash, as minima.

WHITE WINE VINEGARS.

	Acetic acid.	Solids p. c.	Ash p. c.
42154	3.55	0.082	0.017
42152	4.94	0.612	0.060
42158	4.51	0.044	0.018
45922	3.88	0.504	0.044
45925	3.48	0.144	0.020
45927	3.07	0.076	0.012
45930	4.40	0.156	0.032
45352	5.23	0.184	0.026
45354	3.86	0.038	0.006
45358	3.16	0.056	0.004
40739	4.46	0.112	0.016
45155	5.21	0.759	0.032
45157	5.13	0.136	0.020
42432	3.94	1.968	0.228
43948	2.67	0.090	0.018
43949	5.39	0.450	0.072
44959	4.68	1.804	0.212

The United States requirements for Wine Vinegar are 4 per cent acetic acid; 1.0 per cent solids and 0.13 per cent ash.

MALT VINEGAR.

	Acetic acid.	Solids p. c.	Ash p. c.
42156	4.46	2.248	0.336
42157	3.22	0.050	0.010
45923	2.77	2.168	0.306
45924	3.96	0.928	0.054
45926	4.01	1.686	0.476
45928	3.84	0.150	0.016
45151	4.08	2.388	0.178
45154	4.90	2.280	0.248

The United States requirements for Malt Vinegar are 4 per cent acetic acid; 2 per cent solids and 0.20 per cent ash, as minima.

The U. S. standards quoted have been called in question, as being unfair to the manufacturer, and as being insufficient to protect the consumer. It must be confessed that the great variability of composition exhibited by commercial samples of vinegar, purporting to be of the same species, makes it very difficult to give an exact and effective description of vinegar species. I understand* that the U.S. Department of Agriculture is making a first hand study of Cider Vinegar in order to establish its constants. Something of this nature seems to be needed as regards other than Cider Vinegars, and we shall endeavour as far as possible to obtain data which may help in this connection.

I beg to recommend the publication of this report as Bulletin No. 223.

I have the honour to be, Sir,

Your obedient servant,

A. MCGILL,
Chief Analyst.

* Pure Products, Dec. 1910, p. 769.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF NOVA SCOTIA

1910.

Oct. 17	Vinegar...	42150	J. E. Crowe & Co., 14 pts. Ltd., Halifax, N.S.	14	5	Annapolis Vinegar Co., Manufacturer Bridgetown, N.B.	
" 17	" ..	42151	" " " 14 "	14	5	D. W. Wilson, Toronto	"
" 17	" ..	42152	Nat. Drug & Chem. Co., Halifax, N.S.	14	5	Vendors.	
" 17	" ..	42153	" " " 14 "	14	5		
" 17	" ..	42154	T. J. Brown, Halifax, N.S.	14	11	M. W. Grages & Co., Manufacturers Bridgetown, N.S.	
" 17	" ..	42155	W. J. Hopgood & Son, Halifax, N.S.	14	8	" " "	
" 17	" ..	42156	City Provision Store, 1 qt., Halifax, N.S.	1	20	Gamble & Co., Lon. Jno. Tobin & Co., don, Eng. Halifax.	
" 17	" ..	42157	F. W. Hodgson, Halifax, N.S.	1	10	E. Tracey, Halifax, Manufacturers	
" 18	" ..	42158	E. S. Tracey, Halifax, N.S.	14 pts.	nil	Vendor	
" 20	" ..	42159	S. L. Cross, Kentville, N.S.	14	6	Stand. Vinegar Co., Berwick, N.S.	Manufacturers

DISTRICT OF PRINCE EDWARD ISLAND

Sept. 12	Vinegar...	45921	P. A. Smith, Charlottetown.	1 qt.	14	Thos. McCready, St. John, N.B.	
" 13	" ..	45922	S. P. Duffy, Charlottetown.	1 "	12	J. A. Farquharson, Charlottetown.	
" 13	" ..	45923	Jno. McKenna, Charlottetown.	1 "	14	H. Hazzard, Charlottetown.	
" 15	" ..	45924	Stewart & Son, Charlottetown.	1 "	18	Thos. McCready, St. John, N.B.	
" 15	" ..	45925	Geo. Rackham, Charlottetown.	1 "	12	Carvell Bros., Charlottetown.	
" 16	" ..	45926	Geo. Forbes, Vernon River Bridge.	1 "	14	Carvell Bros., Charlottetown.	
" 16	" ..	45927	J. T. Morrissey, Kenlock.	1 "	18	J. A. Farquharson, Charlottetown.	
" 17	" ..	45928	Jas. St. C. Moore, Elton.	1 "	22	Anid Bros., Charlottetown.	
" 23	" ..	45929	Jas. Kennedy, Kensington.	1 "	14	Excelsior Vinegar Co., St. John, N.B.	
" 24	" ..	45930	R. T. Holman, Summerside.	1 "	18	H. J. Heinz, Pittsburg, Pa.	

VINEGAR.

Inspector's Report. (Is not an expression of opinion).	RESULTS OF ANALYSIS.							No. of Sample.
	Acetic Acid, $C_2H_3O_2$	Solids in 100 cc.	Ash in 100 cc.	Reaction of Ash	Chlorides.	Sulphates.	Reaction with Sulphuretted Hydrogen.	

R. J. WAUGH INSPECTOR.

	p. c.	p. c.	p. c.					p. c.	
Cider vinegar.	2.60	1.305	0.202	Alkaline.	Trace	Distinct	None		42150
White wine vinegar. .	3.55	0.082	0.017	"	"	"	"		42151
"	4.91	0.612	0.000	"	Trace	"	"		42152
Cider vinegar.	3.08	0.722	0.078	"	Slight trace.	"	"		42153
"	1.68	2.118	0.300	"	Trace	"	"		42154
"	4.36	2.206	0.308	"	"	"	"		42155
Malt vinegar.	4.46	2.248	0.306	Neutral.	Distinct trace.	Considerable trace.	"		42156
Labelled pure malt vinegar.	3.22	0.050	0.010	Alkaline.	None	Trace.	"		42157
White wine XXX vinegar.	4.51	0.014	0.018	"	"	None	"		42158
Cider vinegar.	4.68	2.768	0.371	"	Trace.	Slight trace	"		42159

THEO. MOORE, INSPECTOR.

XXX cider vinegar. .	4.51	6.005	0.026	Alkaline.	Trace.	Distinct trace.	None		45921
White wine vinegar. .	5.88	0.504	0.044	"					45922
Malt vinegar.	2.77	2.168	0.306	"	Distinct trace.	Distinct trace.	None		45923
"	3.06	0.928	0.064	"					45924
White wine vinegar. .	3.48	0.144	0.024	"					45925
Malt vinegar.	4.01	1.686	0.176	"					45926
White wine vinegar. .	3.07	0.076	0.012	"					45927
Malt vinegar.	3.84	0.150	0.016	"					45928
Cider vinegar.	2.95	1.828	0.364	"	Distinct trace.	Distinct trace.			45929
White wine vinegar. .	4.40	0.156	0.032	"					45930

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF NEW BRUNSWICK

1910							
Sept. 20	Vinegar.	45349	G. A. Troop & Co., 1 qt. St. John, N.B.	10	Vendor		
" 20	"	45350	The Excelsior Vinegar Co., St. John, N.B.	1 "	10	"	
" 20	"	45351	The Excelsior Vinegar Co., St. John, N.B.	1 "	10	"	
" 21	"	45352	T. McCready & Sons, Ltd., St. John, N.B.	1 "	10	"	
" 21	"	45353	McPherson Bros., St. John, N.B.	1 "	10		Baird & Peters, St. John.
" 21	"	45354	Harry G. McBeach, St. John, N.B.	1 "	10	The Standard Vinegar Co. Ltd., Stouffville, Ont.	
Oct. 4	"	45355	H. C. Jewett, Frederic- ton, N.B.	1 "	10	M. W. Graves & Co., Bridgetown.	
" 5	"	45356	John Graham Estate, Woodstock, N.B.	1 "	10	M. W. Graves & Co., Bridgetown.	
" 17	"	45357	G. F. Smith, Sussex, N.B.	1 "	10		F. P. Reed & Co. Ltd., Moncton.
" 18	"	45358	2 Barkers, Ltd., Mon- cton, N.B.	1 "	10	Canadian Beverage Co. Ltd., Amherst, N.S.	

DISTRICT OF QUEBEC—

Sept. 19	Vinegar.	36316	Hamel & Beland, 728 1½ pts. Rue St. Valier, Quebec.	13	St. Lawrence Co.	Manufacturers	
" 20	"	36317	A. Rinfret, 114 Rue 1½ "	13	Unknown.....	Boivin & Grenier ..	
" 20	"	36318	A. Rinfret, 114 Rue 1½ "	9	"	"	
" 21	"	36319	Cantin & Frere, 271 1½ "	15	Eureka Vinegar	Manufacturer	
" 21	"	36320	Cantin & Frere, 271 1½ "	15	"	"	
" 21	"	36321	Cantin & Frere, 271 1½ "	20	"	"	
" 22	"	36322	O. Lacroix, 19 Rue St. 1 bot. Joseph, Quebec.	25	Hold Brooks, London. J. B. Reneand & Cie.		
" 22	"	36323	O. Lacroix, 19 Rue St. 1 "	15	T. Cessat, Jeunes, A. Trussaint & Cie., Bordeaux.	Quebec.	
" 22	"	36324	O. Lacroix, 19 Rue St. 1 "	25	Lovet Frere & Co., U. Francoeur, Quebec	Bordeaux.	
" 22	"	36325	O. Lacroix, 19 Rue St. 1½ pts. Joseph, Quebec.	15	St. Lawrence Co.	Manufacturers	

VINEGAR.

RESULTS OF ANALYSIS.

Inspector's Report. (Is not an expression of opinion)	Acetic Acid $C_2H_3O_2$	Solids in 100 c. c.	Ash in 100 c. c.	Reaction of Ash.	Chlorides.	Sulphates.	Reaction with Sulphur- urated Hydrogen.	Alcohol by Weight.
J. C. FERGUSON, INSPECTOR.								
Apple Cider Vinegar.	4.63	2.370	0.384	Alkaline.	Trace.	Slight trace.	None.	45349
Cider Vinegar.	4.63	1.114	0.132	"	None.	Trace.	"	45350
Spirit Vinegar.	6.88	0.188	0.022	Neutral.	"	"	"	45351
White Wine Vinegar.	5.23	0.184	0.026	Alkaline.	"	None.	"	45352
Cider Vinegar.	3.86	1.728	0.256	"	Slight trace.	Distinct traces.	"	45353
White Wine Vinegar.	3.86	0.038	0.006	"	"	None.	"	45354
Apple Cider Vinegar.	3.93	2.348	0.344	"	"	"	"	45355
Apple Cider Vinegar.	3.93	2.152	0.328	"	"	"	"	45356
Cider Vinegar, (Pyra- mid Brand.)	2.52	1.766	0.416	"	Distinct traces.	Distinct trace.	None.	25357
White Wine Vinegar.	3.16	0.056	0.004	"	Slight trace.	None.	"	45358

E. BELAND, INSPECTOR.

.....	7.48	0.370	0.040	Neutral.	None.	Distinct traces.	None.	36316
.....	7.72	0.412	0.064	Alkaline.	Distinct traces.	"	"	36317
.....	5.40	0.272	0.032	"	Trace.	Distinct trace.	"	36318
.....	8.37	0.244	0.060	"	"	Trace.	"	36319
.....	7.92	0.182	0.041	"	None.	None.	"	36320
.....	3.50	3.712	0.460	"	Distinct traces.	Considerable amount.	"	36321
.....	5.40	3.534	0.364	"	Trace.	"	"	36322
.....	9.67	10.530	0.508	"	Considerable amount.	Distinct traces.	"	36323
.....	6.72	0.216	0.044	"	None.	Trace.	"	36324
.....	6.88	0.320	0.026	"	Distinct traces.	Distinct trace.	"	36325

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF ST. HYACINTHE

1910							
Sept. 17	Vinegar.	41043	R. O. Brodeur, St. Hyacinthe.	1 qt.	13		
" 19	"	41044	May & Houlahan, Sherbrooke.	1 " "	10		
" 19	"	41045	Alfred Landot, Sherbrooke.	1 " "	7		
" 19	"	41046	Bernard & Co., Sherbrooke.	1 " "	10		
" 19	"	41047	Therault & Leclerc, Sherbrooke.	1 " "	10		
" 19	"	41048	N. Lacroix, Sherbrooke.	1 " "	10		
" 20	"	41049	Biron & Blouin, Sherbrooke.	1 " "	10	Wilson, L.B. Toronto	
" 20	"	41050	W. R. Murray, Sherbrooke.	1 " "	10		
" 20	"	41051	V. Archambault, Sherbrooke.	1 " "	10		
" 20	"	41052	Hebert & Fortier, Sherbrooke.	1 " "	10		

DISTRICT OF MONTREAL

Sept. 14	Vinegar.	40739	L. S. Guay, 124 Sherbrooke W. Montreal.	1 qt.	15		
" 14	"	40740	Hutton Bros., St. Antoine St., Montreal.	1 " "	15	Robt. Millar, Montreal.	
" 14	"	40741	Joseph Landry, 683 St. James St., Montreal.	1 " "	10		Laporte Martin Ltd.
" 15	"	40742	A. Menard, 20 Prince Arthur E., Montreal.	1 " "	10		Andon Hebert Co. Ltd.
" 15	"	40743	A. E. Lemay, 325 Clark St., Montreal.	1 " "	10		
" 15	"	40744	Swift's Provision Store, 2000 Waverly St., Montreal.	1 " "	15		
" 15	"	40745	E. Martin, 203 Laurier W. Montreal.	1 " "	7		
" 16	"	40746	Willison Bros., 201 Prince Arthur W., Montreal.	1 " "	15		
" 16	"	40747	P. Daoust, 276 Sherbrooke St. W., Montreal.	1 " "	15		
" 16	"	40748	M. O'Reilly, 58 James St., Montreal.	1 " "	15		

VINEGAR.

Inspector's Report. (Is not an expression of opinion.)	RESULTS OF ANALYSIS.							No. of Sample.
	Acetic acid $C_2H_3O_2$	Solids in 100 cc.	Ash in 100 cc.	Reaction of ash.	Chlorides.	Sulphates.	Reaction with Sulphuretted Hydrogen.	Alcohol by weight.

J. J. COSTIGAN, ACTING INSPECTOR.

	p.c.	p.c.	p.c.					p.c.	
.....	5.23	0.260	0.012	Alkaline..	Trace..	Trace....	None....	0.89	41043
Cider Vinegar.....	4.13	0.096	0.094	"	Distinct traces.	Distinct traces.	"	0.11	41044
.....	4.32	0.208	0.070	"	Present...	Trace....	"	0.37	41045
.....	6.00	0.126	0.026	"	None....	"	"	0.42	41046
.....	4.02	0.112	0.018	"	Slight trace.	"	"	Trace....	41047
.....	4.08	0.086	0.012	"	"	"	"	0.32	41048
.....	4.14	0.106	0.020	"	"	"	"	0.26	41049
.....	4.06	0.106	0.028	"	"	"	"	0.16	41050
.....	4.13	0.104	0.014	"	"	"	"	0.16	41051
.....	5.88	0.140	0.028	"	"	"	"	1.00	41052

J. J. COSTIGAN, INSPECTOR.

White Wine Vinegar..	4.46	0.112	0.016	Alkaline..	None....	Trace ..	None....	0.53	40739
Cider Vinegar.	4.80	2.654	0.280	"	"	"	"	0.26	40740
.....	4.90	0.186	0.020	"	Trace....	"	"	0.11	40741
.....	4.63	0.144	0.044	"	"	Slight trace.	"	0.11	40742
.....	5.04	0.746	0.030	"	Slight trace.	Trace....	"	0.11	40743
.....	5.18	0.154	0.012	"	None....	"	"	0.11	40744
.....	6.62	0.068	0.038	"	"	"	"	0.32	40745
XXX.....	4.68	0.226	0.010	"	"	"	"	0.16	40746
.....	5.16	0.284	0.010	"	Trace....	"	"	0.58	40747
.....	6.60	0.146	0.048	"	"	"	"	0.26	40748

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF OTTAWA—

1910.

Sept. 13	Vinegar...	43131	McCaig Cheney & Co., 1 qt... Vankleek Hill.	10		Wilson Lyttle and Manufacturers... Badgerow, Toronto	
" 13	"	43132	Cameron & Downing, 1... Vankleek Hill.	10		Canadian Vinegar Co., Mathewson's Sons, Montreal.	
" 21	"	43133	P. J. Campbell, Ren-1... frew.	10		Wilson Lyttle and Manufacturers... Badgerow, Toronto	
" 21	"	43134	Stewart Bros. & Co., 1... Renfrew.	10		Canadian Vinegar Co., Mathewson's Sons, Montreal.	
" 26	"	43135	L. Frair, Somerset st., 1... Ottawa.	10		unknown.....	H. B. Borbridge, Agent through F. J. Castle Co.
" 26	"	43136	A. P. Johnson, Bronson, 1... Ave., Ottawa.	20		"	H. N. Bate & Sons, Ltd., Ottawa.
" 26	"	43137	T. Bowman, Somerset 1... St., Ottawa.	10		"	F. J. Castle Co., Ltd., Ottawa.
" 26	"	43138	N. S. Schwerdfager, 1... Ottawa.	13		Wilson Lyttle and Manufacturers... Badgerow, Toronto	
" 27	"	43139	Lapensee & Lafleur, 1... Albert St., Ottawa.	10		Unknown.....	H. N. Bate, Sons, Ltd., Ottawa.
" 27	"	43140	W. Farmer, Wellington 1... St., Ottawa.	7		"	"

DISTRICT OF KINGSTON—

Oct. 5	Vinegar...	46554	D. B. Murray, Kings-1 qt... ton.	15		Vendor.....	
" 5	"	46555	S. T. Kirk, Kingston, 1... ton.	10		D. B. Murray, Kings- ton.	
" 5	"	46556	J. Crawford, Kingston 1... ton.	10		"	
" 7	"	46557	B. E. Hopkinson, 1... Kingston.	10		"	Fewick and Hendry Co., Kingston.
" 7	"	46558	Geo. Gibson, Kingston 1... ton.	10		D. B. Murray, Kings- ton.	
" 7	"	46559	H. M. Stover, Kingston 1... ton.	10		"	A. Maclean, Kings- ton.
" 7	"	46560	W. J. Arniel, Alford 1... St., Kingston.	10		D. B. Murray, Kings- ton.	
" 7	"	46561	W. H. Medley, Kings-1... ton.	10		"	
" 7	"	46562	N. J. Nesbitt, Kings-1... ton.	10		"	
" 7	"	46563	C. H. Pickering, Kings-1... ton.	10		"	Geo. Robertson, Kingston.

DISTRICT OF TORONTO—

Sept. 10	Vinegar...	45149	Thos. B. Franklin, 643 1 qt... Queen St., Toronto.	25		Unknown.....	
" 9	"	45150	The Queen City Vine- gar Co. Ltd., 19 River St., Toronto	10		Vendors.....	
" 9	"	45151	The Wilson Lyttle Bad- gerow Co. Ltd., Front St., West Toronto...	10		"	

VINEGAR.

13

Inspector's Report. (Is not an expression of opinion).	RESULTS OF ANALYSIS.								No. of Sample.
	Acetic Acid, $C_2H_3O_2$	Solids in 100 cc.	Ash in 100 cc.	Reaction of Ash.	Chlorides.	Sulphates.	Reaction with Sulphurated Hydrogen.	Alcohol by weight.	
White Wine Vinegar.....									43131
Clarified Proof Vinegar	4.70	0.180	0.020	Alkaline..	Trace ..	Trace....	Slight darkening	0.70	43132
XXX White Wine Vinegar.....									43133
.....									43134
Cider Vinegar.....									43135
Malt Vinegar.....									43136
.....									43137
.....									43138
.....	4.01	0.442	0.024	Alkaline..	Trace ..	None ..	None....	0.16	43139
.....	3.96	0.346	0.026	" ..	" ..	" ..	" ..	0.11	43140

JAS. HOGAN, INSPECTOR.

.....									46554
.....									46555
.....									46556
.....									46557
.....									46558
.....									46559
.....									46560
.....									46561
.....									46562
.....									46563

H. J. DAGAR, INSPECTOR.

Labelled Franklin's Imported English Malt Vinegar.....									45149
XX Vinegar.....	3.89	0.094	0.008	Alkaline.	None.....	None ..	None....	0.05	45150
Malt Vinegar.....	4.08	2.388	0.178	" ..	Trace....	Distinct traces.	" ..	0.11	45151

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF TORONTO—

1910.							
Sept. 19	Vinegar.	45152	Dominion Vinegar Co., 1 qt. Hamilton.	10	Vendors.		
" 19	"	45153	The Imperial Vinegar & Pickling Co. Ltd. Hamilton.	10	"		
21	"	45154	W. J. O'Brien, 94 Jas. 1 St., North Toronto.	25		Imported from Eng- land.	
22	"	45155	W. McKim, Orange- ville.	10	Standard Vinegar Co. Ltd., Stouffville.		
22	"	45156	Taylor Pringle Co. Ltd. Owen Sound.	10	Vendors		
26	"	45157	J. M. Cook, 459 College St. Toronto.	10	The Queen, City Vine- gar Co. Ltd, Toronto.		
26	"	45158	W. B. Pringle, Whirby	10	The Whirby Fruit & Vinegar Co., Whirby.		

DISTRICT OF LONDON—

Sept. 21	Vinegar.	44623	Jackson & Son, Guelph 1 1/2 pts.	10	Wilson & Little, Tor- onto.		
" 30	"	44650	James Cuth, Blythe... 1 pt	10		Elliott Mar & Co., London.	
Oct. 7	"	44656	Gos, Nairn, Windsor, 1 "	10	The Bell Vinegar Co., Belleville.		
" 12	"	44660	McCormick & Son, 1/2 "	10	Imperial Vinegar Co., Hamilton.		
" 12	"	44664	Mr. Fleming 1/2 "	10	Wilson, Little & Co., Toronto.		

DISTRICT OF WINDSOR—

Sept. 13	Vinegar.	42432	R. J. Wood, London, 3 bts.	15	Belleville Vinegar Co., Belleville.		
" 13	"	42433	Cullis & Fleming, Lon- don, Ont.	10	Belleville Fruit & Vinegar Co., Belle- ville.		
" 13	"	42434	Pruney Bros, London, 3 "	10	Wilson, Lytle & Bad- gerow, Toronto.		
" 13	"	42435	Pruney Bros., London, 3 "	10	R. Garner, London.		
" 13	"	42436	E. S. English, London, 3 "	10	S. Allin, Norwich.		
" 13	"	42437	E. & O. Bong, London, 3 "	8	L. M. Vandernade, London.		
" 14	"	42440	R. Garner, London, 3 "	nil.	Vendor		
" 14	"	42441	L. M. Vandernade, 3 " London, Ont.	"	"		

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF MANITOBA							
1910							
Nov. 15	Vinegar..	45845	Mrs. J. R. Wallace, 1 qt., Winnipeg.	10		The Blackwood, Ltd., Winnipeg.	Unknown.
" 15	"	45846	A. Ingram, Winnipeg. 1 "	10		"	"
" 15	"	45847	M. Feinstein, 737 Stella 1 " St., Winnipeg.	5		"	Manufacturers.
" 15	"	45848	Wachnaw, 663 Stella 1 " St., Winnipeg.	10		Unknown	Weidman Bros., Winnipeg.
" 15	"	45849	S. Ginsberg, 664 Stella 1 " St., Winnipeg.	10		The Dyson Co., Win- nipeg.	Unknown.
" 16	"	45850	J. Lobbt, Winnipeg .. 1 "	10		The White Star Mann- ufacturing Co., Win- nipeg.	A. Macdonald & Co., Winnipeg
" 16	"	45851	P. Nelson, Winnipeg.. 1 "	5		The Blackwood, Ltd., Winnipeg.	Unknown.
" 16	"	45852	S. J. Deroche, Winni- 1 " peg.	10		The White Star Mann ufacturing Co., Win- nipeg.	"
" 16	"	45853	The Dyson Co., Winni- 1 " peg.	nil.		Vendors.	Manufacturers
" 16	"	45854	The Dyson Co., Winni- 1 " peg.	"		"	"

DISTRICT OF CALGARY

Sept. 23	Vinegar..	43944	R. V. Shaw & Co., East Calgary.	1 qt.	20	Georgeson Co., Ltd., Calgary.	
" 23	"	43945	Jenkins & Comfort, East Calgary.	1 "	20	"	"
" 23	"	43946	R. J. Frizzle, East Calgary.	1 "	20	Wilson, Lyttle & Bad- gerow Co., Toronto.	
" 27	"	43947	Georgeson & Co., Ltd., Calgary.	1 "	20	Vendors	
" 27	"	43948	L. T. Mewburn & Co., Ltd., Calgary.	1 "	20	Wilson, Lyttle & Bad- gerow Co., Toronto.	
" 27	"	43949	G. F. & J. Galt, Ltd., Calgary.	1 "	20	Vendors	
" 27	"	43950	Campbell, Wilson & Horne, Ltd., Calgary	1 "	20	Wilson, Lyttle & Bad- gerow Co., Toronto.	
" 28	"	43951	S. G. Freeze, Calgary.	1 "	25	Annapolis Valley Vin- egar Mfg. Co., Bridgetown, N.S.	
" 28	"	43952	J. T. Macdonald, Cal- gary.	1 "	40	Midland Vinegar Co., Birmingham, Eng.	
" 28	"	43953	Howson, McEwen Co., Ltd., Calgary.	1 "	25	Crosse & Blackwell, London, Eng.	

VINEGAR.

RESULTS OF ANALYSIS.

Inspector's Report.
(Is not an expression
of opinion).

Acetic Acid $C_2H_3O_2$	Solids in 100 cc	Ash in 100 cc	Reaction of Ash.	Chlorides.	Sulphates.	Reaction with Sulph. ureted Hydrogen.	Alcohol by Weight.	No. of Sample.
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A. C. LARIVIERE, INSPECTOR.

p.c.	p.c.	p.c.				p.c.	
7.15	0.492	0.112	Alkaline.				45845
1.03	0.176	0.086	"				45846
5.25	0.720	0.106	"				45847
							45848
							45849
6.79	0.202	0.010	Alkaline.				45850
							45851
							45852
10.12	0.958	0.100	Alkaline.				45853
10.41	1.646	0.144	"				45854

R. W. FLETCHER, INSPECTOR.

Malt Vinegar								43944
White Wine Vinegar								43945
Malt Vinegar								43946
"								43947
White Wine Vinegar	2.67	0.090	0.018	Alkaline.	Trace.	Slight trace.	None.	0.37 43948
"	5.30	0.450	0.072	"	Distinct traces.	Distinct traces.	"	0.37 43949
								43950
Cider Vinegar								43951
Malt Vinegar								43952
"								43953

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF VANCOUVER							
1910.							
Oct. 12	Vinegar.	38064	B.C. Distillery Co., Ltd., Vancouver.	1 qt.	25	Vendors	
" 12	"	38065	N. R. Estabrooks, Vanconver.	1 c.	15	W. J. Pendray, Victoria.	
" 13	"	38066	London Grocery Co., Vancouver.	1 c.	25	Stephens, Gloucester.	
" 13	"	38067	Empress Mfg. Co., Vanconver.	1 c.	25	Wilson Leathe, Toronto.	
" 13	"	38068	W. H. Walsh & Co., Vancouver.	1 c.	25	G. F. Sutton & Sons, London, Eng.	
" 13	"	38069	A. Antipas, Vancouver	1 c.	25	B.C. Distillery, Vanconver.	
" 13	"	38070	T. W. Cardinal, Kit-silano, Vancouver.	1 c.	25	Crosse & Blackwell, London, Eng.	
" 13	"	38071	Fraser & McLeod, Kit-silano, Vancouver.	1 c.	15		Hudson's Bay Co., Vancouver.
" 13	"	38072	Gurche & Carlsaid, Fairview, Vancouver.	1 c.	15		W. H. Malkin & Co., Vancouver.
" 13	"	38073	David Spencer, Ltd., Vancouver.	1 c.	15	Wilsons	W. K. Houston & Co., Victoria.

DISTRICT OF VICTORIA—

Oct. 12	Vinegar.	44955	Windsor Grocery Co., Victoria, B.C.	1 qt.	25	Grimble & Co., Ltd., London, Eng.	
" 12	"	44956	The West End Grocery Co., Ltd., Victoria, B.C.	1 c.	20	Purnell, Bristol, Eng.	
" 12	"	44957	Saunders Grocery Co., Ltd., Victoria, B.C.	1 c.	20	Rowat & Co., Glasgow and Liverpool.	
" 12	"	44958	Copas & Young, Victoria, B.C.	1 c.	25	Crosse & Blackwell, London, Eng.	
" 13	"	44959	H. O. Kirkham, Victoria, B.C.	1 c.	25	R. G. Wilcocks, Los Angeles, Cal.	
" 17	"	44960	E. G. Bailey, Victoria, B.C.	1 c.	20	Empress Mfg. Co., Vancouver, B.C.	
" 17	"	44961	F. F. Plummer, Victoria, B.C.	1 c.	15	B. C. Vinegar Works, Vancouver, B.C.	
" 17	"	44962	Erskine & Co., Victoria, B.C.	1 c.	25	E. Lazenby & Son, Ltd., London, Eng.	
" 17	"	44963	Harrison & McDonald, Victoria, B.C.	1 c.	25	W. K. Houston & Co., Victoria.	
" 18	"	44964	L. Dickinson, Victoria, B.C.	1 c.	20	White Cottells, Camberwell, London, Eng.	

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